(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 23 August 2001 (23.08.2001)

PCT

(10) International Publication Number WO 01/61041 A2

(51) International Patent Classification?:

(21) International Application Number: PCT/US01/04884

(22) International Filing Date: 16 February 2001 (16.02.2001)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/183,626

18 February 2000 (18.02.2000) US

(71) Applicant: ACLARA BIOSCIENCES INC. [US/US]; 1288 Pear Avenue, Mountain View, CA 94043 (US).

(72) Inventors: SHARAT, Singh; 3420 Royal Meadow Lane, San Jose, CA 95135 (US). CAO, Liching; 2006 Klamath Avenue #7, Santa Clara, CA 95051 (US). HOOPER, Herbert, H.; 823 Covington Street, Belmont, CA 94002 (US). ALBAGLI, David; 1155 Hillcrest Boulevard, Millbrae, CA 94030 (US). ANDERSON, Rolfe; 13690 Rosemere Court, Saratoga, CA 95070 (US). ZENG, Shulin; 415 Acalanes Drive #22, Sunnyvale, CA 94386 (US).

C12Q 1/68 (74) Agents: DEHLINGER, Peter, J. et al.; Iota Pi Law Group, P.O. Box 60850, Palo Alto, CA 94306-0850 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

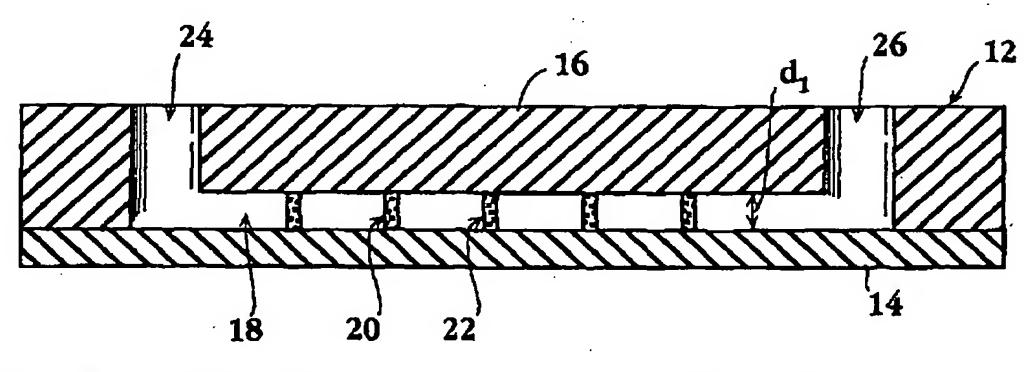
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTIPLE-SITE REACTION DEVICE AND METHOD



(57) Abstract: A method and device for performing a plurality of small-volume reactions simultaneously are disclosed. The device includes an elongate or planar channel and a port for introducing such bulk-phase medium into the channel, a plurality of discrete small-volume reaction regions within the channel, and a reaction-specific reagent releasably carried on a wall portion of each reaction region. In carrying out the method of the invention, a bulk phase medium containing common reactants is added to the channel. Upon release of reaction-specific reagent from the wall portions of the reaction regions, a reagent-specific reaction can occur simultaneously in each region. The channel is dimensioned to substantially prevent convective fluid flow among the reaction regions during such reactions.

01/61041 42